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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,201

09/27/2005

Per Halvarsson

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EXAMINER

BAISA, JOSELITO SASIS

ART UNIT

PAPER NUMBER

2832

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/528,201	HALVARSSON, PER ET AL.	
	Examiner	Art Unit	
	Joselito Baisa	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 19-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/17/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 19-24, 26, 29, 30, 31, 33, 34, 38-40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauferle et al. [3942100] in view of Breitenbach et al. [4785138].

Kauferle et al. disclose an installation for transmission of electric power comprising two switchgear units; a high voltage ac voltage line extending between the switchgear units, the ac voltage line comprising at least one cable **f**; at least one inductor **b** located along the of the cable **f** between the switchgear units and integrated into the at least one extruded cable **f**, the at least one inductors **b** being connected between the conductor of the at least one extruded cable **f** and ground[Col. 2, Lines 23-35, Figure 1].

Kauferle et al. disclose the instant claimed invention above except for the cable being an extruded cable with an inner electric conductor, an insulating layer of a solid material surrounding said conductor, and an outer screen layer located at ground potential.

Breitenbach et al. disclose an extruded cable **3** with an inner electric conductor **5**, an insulating layer **8** of a solid material surrounding conductor **5**, and an outer screen layer **10** located at ground potential [Col. 4, Lines 6-53, Figure 2].

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It would have been obvious to one having ordinary skill in the art at the time of the invention to use the extruded cable as taught by Breitenbach et al. to the electric power transmission system of Kauferle et al..

The motivation would have been due to the capability of the reactive power compensator to improve the stability of the transmission system [Col. 1, Lines 47-53].

With respect to claim 19, the claim is rejected for reciting and inherent operational characteristics of the above structure in this case, (i.e.) “the at least one inductor being operative to generate reactive current to compensate for capacitive current produced in the at least one extruded cable”. Only structural limitations are given patentable weight.

Regarding claim 20, Kauferle discloses the switchgear units are located at large distances from each other [Col. 2, Lines 23-26].

Regarding claims 21, 22 and 23, Kauferle et al. disclose a plurality of inductors distributed uniformly along the line at considerable distances [Col. 2, Lines 23-40].

Regarding claim 24, Breitenbach discloses the cable is an extruded cable [Col. 4, Lines 6-53, Figure 2].

Regarding claim 26, Breitenbach et al. disclose the cable 3 is of the type that comprises an inner layer 7, arranged nearest the conductor 5, with an electrical conductivity that is lower than the electrical conductivity of the conductor but sufficient to cause this inner layer to act in a

potential-equalizing manner to equalize the electric field externally of this inner layer, and wherein the screen layer **10** has an electrical conductivity that is higher than that of the insulating layer **8** to render the screen layer capable of functioning in a potential-equalizing manner, through connection to ground, and to essentially enclose the electric field that arises inside the screen layer as a result of the electric conductor [Col. 3, Lines 50-60; Col. 4, Lines 43-60, Figure 2].

Regarding claim 29, Kauferle et al. discloses the inductor comprises a winding arranged in a casing **50** located at ground potential, the winding being connected by one end to the electric conductor of the cable and by its other end to the casing **50** [Col. 2, Lines 23-33, Figure 1].

Regarding claims 30 and 31, Kauferle et al. discloses the inductor is provided with an auxiliary winding for delivering auxiliary energy to a consumer, such as equipment for operation of parts of the installation and communication between such parts and / or between the installation and external equipment [Col. 2, Lines 58-68, Figure 1].

Regarding claims 33 and 34, Kauferle et al. discloses the ac voltage line exhibits three phases with a cable for each phase connected to a separate inductor winding in a respective phase leg of a common core [Col. 3, Lines 38-46].

With respect to claims 38-40, Kauferle et al. disclose the claimed invention except for the claimed distance between the switchgears.

It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to alter the distance between the switchgears and inductors since applicant has not disclosed that a distance of 25 km , lesser or larger solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the switchgears being separated as shown by Kauferle et al.

Regarding claim 42, Kauferle et al. discloses the dimensioning of the inductor and the distance between adjacent inductors and between the inductor and a switchgear unit respectively, are adapted to the magnitude of the voltage the cable is intended to carry and the shunt capacitance /unit of length of the cable to essentially eliminate capacitive currents in the cable.

2. Claims 25, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. as applied in claim 1 above, and further in view of Kawasaki [5716574].

Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for the an insulating layer of cross-linked polyethylene.

Kawasaki discloses an insulating layer of cross-linked polyethylene [Col. 6, Lines 50-55].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the insulating layer of cross-linked polyethylene as taught by Kawasaki to the cable of Breitenbach et al.

The motivation would have been to produce a high quality cable [Col. 5, Lines 20-27].

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Regarding claim 35 and 36, Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for the cable is designed to have a system voltage of between 50 kv and 500 kv / 30 kv and 300kv, between the conductor and the screen layer.

Kawasaki discloses a cable designed to have a system voltage of between 50 kv and 500 kv/ 30 kv and 300kv, between the conductor and the screen layer [Col. 8, Lines 42-47].

It would have been obvious to one having ordinary skill in the art at the time of the invention use the cable as taught by Kawasaki that has a system voltage between 30 kv to 300 kv to the structure of Kauferle et al. in view of Breitenbach et al.

The motivation would have been to ensure excellent electrical and mechanical properties of the cable at 30-300 kv system voltage.

3. Claim 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. as applied in claim 1 above, and further in view of [JP 06261456].

Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for the inductor is completely or partially buried in the ground.

[JP 06261456] discloses the inductor is completely or partially buried in the ground [Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention to have the inductor completely or partially buried in the ground as taught by [JP 06261456] to the structure of Kauferle et al. in view of Breitenbach et al.

The motivation would have been for safety concern.

Regarding claim 28, Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for the cable, at the inductor, is divided into a cable part on both sides of the point of connection to the cable, wherein the installation comprises means for connection of the inductor to the cable comprising three connection devices for connection of an end of the electric conductor of each cable part to a respective such device and an end of the inductor to the third device, and a member for electrically interconnecting the three devices.

[JP 06261456] discloses the cable, at the inductor, is divided into a cable part on both sides of the point of connection 7 to the cable, wherein the installation comprises means for connection of the inductor to the cable comprising three connection devices for connection of an end of the electric conductor of each cable part to a respective such device and an end of the inductor to the third device 2, and a member for electrically interconnecting the three devices [see Figure and Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use means for connection of the inductor to the cable comprising three connection devices as taught by [JP 06261456] to the structure of Kauferle et al. in view of Breitenbach et al..

The motivation would have been to increase stability of the system [Abstract].

4. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. as applied in claim 1 above, and further in view of Johansen [EP 0825465].

Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for an optical fiber laid along the cable or integrated into the cable, for use of a device for protection of the installation and/or commercial communication within the installation and/or with the surrounding.

Johansen discloses an optical fiber, laid along the cable or integrated into the cable, for use of a device for protection of the installation and/or commercial communication within the installation and/or with the surrounding [Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention have an optical fiber, laid along the cable or integrated into the cable, for use of a device for protection of the installation and/or commercial communication as taught by Johansen to the installation of Kauferle et al. in view of Breitenbach et al.

The motivation would have been to be able to establish communication to a remote device in the installation [Abstract].

5. Claims 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. as applied in claim 1 above, and further in view of Ainsworth [6441712].

Kauferle et al. in view of Breitenbach et al. disclose the instant claimed invention above except for the installation is designed for a maximum transmissible power, via the ac voltage line of 50 MW-600 MW and the inductor for a reactive power of 5-30 MVAR.

Ainsworth discloses the installation is designed for a maximum transmissible

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power, via the ac voltage line of 50 MW-600 MW and the inductor for a reactive power of 5-30 MVAR [Col. 3, Lines 52-54; Col. 4, Lines 46-52].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the installation and the inductor as taught by Ainsworth to the structure of Kauferle et al. in view of Breitenbach et al.

The motivation would have been ensure excellent electrical performance of the system.

Response to Argument

Applicant's arguments with respect to claims 19-42 have been considered but are not persuasive.

Applicant's claim 19 is further rejected for reciting and inherent operational characteristics of the above structure, in this case (i.e.), "the at least one inductor being operative to generate reactive current to compensate for capacitive current produced in the at least one extruded cable". Only structural limitations are given patentable weight.

With regards to applicants argument that the reference Kauferle does not disclose any inductor integrated with the cable. Kauferle discloses a choke [Col. 2, Lines 33-34] that is used as reactive compensator in the transmission line. A choke is an inductor according to its definition.

The choke disclosed by Kauferle is integrated with the cable to compensate for excess reactive swings [Col. 2, Lines 44-45].

Applicant also disagreed about Breitenbach's extruded cable saying that the cable is an electrical cable used as a phase winding for motors. Breitenbach has an extruded cable that is used to transmit

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electric power, which is just the same as the applicant's claim of an extruded cable used in electric power transmission.

Conclusion

Applicant's amendment has been considered. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joselito Baisa
Examiner
Art Unit 2832

jsb


ELVIN ENAD
SUPERVISORY PATENT EXAMINER
02 APR 14 2007